

=> fil reg
FILE 'REGISTRY' ENTERED AT 16:22:12 ON 18 MAR 2008
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STRUCTURE FILE UPDATES: 17 MAR 2008 HIGHEST RN 1008496-49-8
DICTIONARY FILE UPDATES: 17 MAR 2008 HIGHEST RN 1008496-49-8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

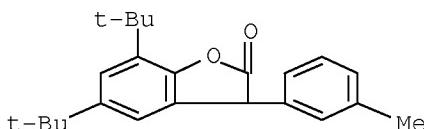
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d ide can tot 17

L7 ANSWER 1 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
RN 201015-03-4 REGISTRY
ED Entered STN: 25 Feb 1998
CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-[2,3(or
3,4)-dimethylphenyl]- (CA INDEX NAME)
OTHER NAMES:
CN HP 136
CN Irganox HP 136
MF C24 H30 O2
CI IDS, COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL



D1—Me

122 REFERENCES IN FILE CA (1907 TO DATE)
122 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 148:225728

REFERENCE 2: 148:204803

REFERENCE 3: 148:155630

REFERENCE 4: 148:132234

REFERENCE 5: 148:109260

REFERENCE 6: 148:101375

REFERENCE 7: 148:55942

REFERENCE 8: 148:55933

REFERENCE 9: 147:486942

REFERENCE 10: 147:428153

L7 ANSWER 2 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN

RN 160198-26-9 REGISTRY

ED Entered STN: 20 Oct 1995

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(2,3-dimethylphenyl)-(CA INDEX NAME)

OTHER NAMES:

CN 5,7-Bis(tert-butyl)-3-(2,3-dimethylphenyl)-3H-benzofuran-2-one

CN 5,7-Di-tert-butyl-3-(2,3-dimethylphenyl)-2(3H)-benzofuranone

CN 5,7-Di-tert-butyl-3-(2,3-dimethylphenyl)-3H-benzofuran-2-one

MF C24 H30 O2

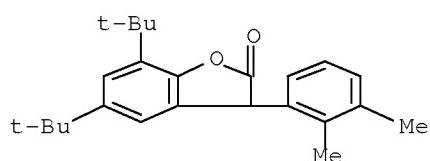
CI COM

SR CA

LC STN Files: CA, CAPLUS, CHEMLIST, USPAT2, USPATFULL

Other Sources: TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

36 REFERENCES IN FILE CA (1907 TO DATE)

36 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 148:178963

REFERENCE 2: 147:511809

REFERENCE 3: 147:511279

REFERENCE 4: 147:437021

REFERENCE 5: 146:82624

REFERENCE 6: 145:104487

REFERENCE 7: 144:273841

REFERENCE 8: 144:43169

REFERENCE 9: 143:249083

REFERENCE 10: 143:154613

L7 ANSWER 3 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN

RN 164391-52-0 REGISTRY

ED Entered STN: 06 Jul 1995

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)-(CA INDEX NAME)

OTHER NAMES:

CN 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-2(3H)-benzofuranone

CN 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one

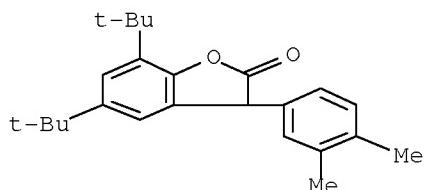
MF C24 H30 O2

CI COM

SR CA

LC STN Files: CA, CAPLUS, CASREACT, CHEMLIST, TOXCENTER, USPAT2, USPATFULL
Other Sources: TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

103 REFERENCES IN FILE CA (1907 TO DATE)

103 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 148:178963

REFERENCE 2: 148:155646

REFERENCE 3: 148:109260

REFERENCE 4: 147:551368

REFERENCE 5: 147:511809

REFERENCE 6: 147:511279

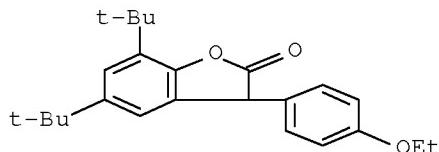
REFERENCE 7: 147:487296

REFERENCE 8: 147:487099

REFERENCE 9: 147:437021

REFERENCE 10: 147:144501

L7 ANSWER 4 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 155811-15-7 REGISTRY
 ED Entered STN: 17 Jun 1994
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(4-ethoxyphenyl)- (CA INDEX NAME)
 OTHER NAMES:
 CN 5,7-Di-tert-butyl-3-(4-ethoxyphenyl)benzofuran-2-one
 MF C24 H30 O3
 SR CA
 LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL

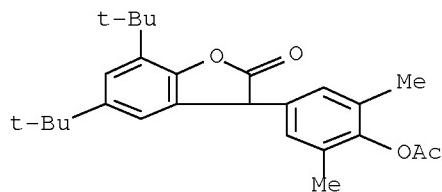


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9 REFERENCES IN FILE CA (1907 TO DATE)
 9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 148:178963
 REFERENCE 2: 146:423000
 REFERENCE 3: 145:104487
 REFERENCE 4: 141:295685
 REFERENCE 5: 141:70644
 REFERENCE 6: 137:263786
 REFERENCE 7: 137:79675
 REFERENCE 8: 128:116258
 REFERENCE 9: 121:36914

L7 ANSWER 5 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 155810-89-2 REGISTRY
 ED Entered STN: 17 Jun 1994
 CN 2(3H)-Benzofuranone, 3-[4-(acetyloxy)-3,5-dimethylphenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)
 OTHER NAMES:
 CN 3-(4-Acetoxy-3,5-dimethylphenyl)-5,7-di-tert-butylbenzofuran-2-one
 MF C26 H32 O4
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

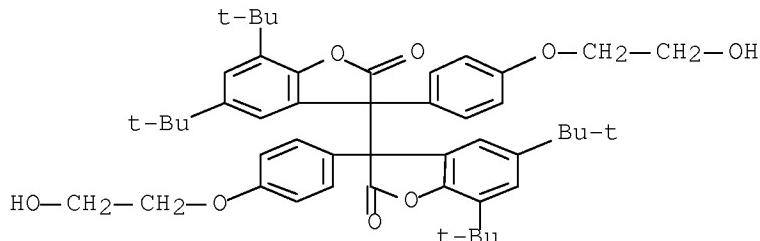


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5 REFERENCES IN FILE CA (1907 TO DATE)
 5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:104487
 REFERENCE 2: 141:70644
 REFERENCE 3: 137:263786
 REFERENCE 4: 137:79675
 REFERENCE 5: 121:36913

L7 ANSWER 6 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 155794-36-8 REGISTRY
 ED Entered STN: 17 Jun 1994
 CN [3,3'-Bibenzofuran]-2,2'(3H,3'H)-dione, 5,5',7,7'-tetrakis(1,1-dimethylethyl)-3,3'-bis[4-(2-hydroxyethoxy)phenyl]- (CA INDEX NAME)
 MF C48 H58 O8
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL



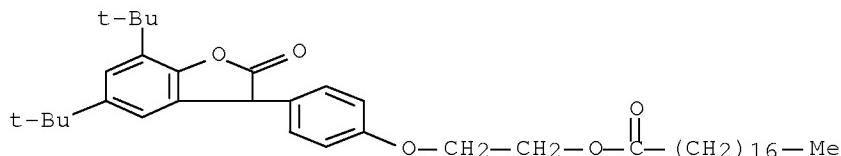
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:70644
 REFERENCE 2: 137:79675
 REFERENCE 3: 121:35314

L7 ANSWER 7 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN

RN 155794-08-4 REGISTRY
 ED Entered STN: 17 Jun 1994
 CN Octadecanoic acid, 2-[4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]phenoxy]ethyl ester (CA INDEX NAME)
 OTHER NAMES:
 CN 5,7-Di-tert-butyl-3-[4-(2-stearoyloxyethoxy)phenyl]benzofuran-2-one
 MF C42 H64 O5
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

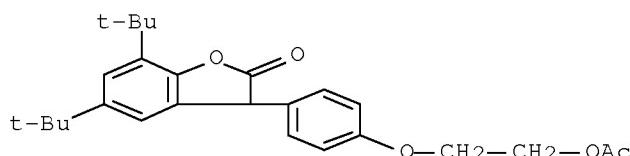


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7 REFERENCES IN FILE CA (1907 TO DATE)
 7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:104487
 REFERENCE 2: 141:70644
 REFERENCE 3: 137:263786
 REFERENCE 4: 137:79675
 REFERENCE 5: 129:190510
 REFERENCE 6: 128:116258
 REFERENCE 7: 121:35314

L7 ANSWER 8 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 155794-02-8 REGISTRY
 ED Entered STN: 17 Jun 1994
 CN 2(3H)-Benzofuranone, 3-[4-[2-(acetoxyethoxy)phenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)
 OTHER NAMES:
 CN 3-[4-(2-Acetoxyethoxy)phenyl]-5,7-di-tert-butylbenzofuran-2-one
 CN PS 675
 MF C26 H32 O5
 SR CA
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

11 REFERENCES IN FILE CA (1907 TO DATE)
 11 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:104487

REFERENCE 2: 141:70644

REFERENCE 3: 137:263786

REFERENCE 4: 137:79675

REFERENCE 5: 129:331553

REFERENCE 6: 129:190510

REFERENCE 7: 128:116258

REFERENCE 8: 126:331493

REFERENCE 9: 126:306116

REFERENCE 10: 123:256501

L7 ANSWER 9 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN

RN 150046-35-8 REGISTRY

ED Entered STN: 16 Sep 1993

CN Propanoic acid, 2,2-dimethyl-, 4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]-2,6-dimethylphenyl ester (CA INDEX NAME)

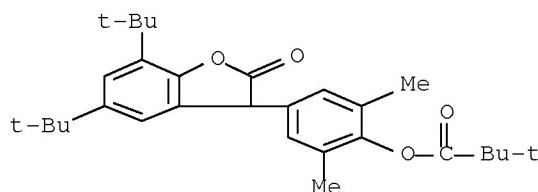
OTHER NAMES:

CN 3-(3,5-Dimethyl-4-pivaloyloxyphenyl)-5,7-di-tert-butylbenzofuran-2-one

MF C29 H38 O4

SR CA

LC STN Files: CA, CAPLUS, USPAT2, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9 REFERENCES IN FILE CA (1907 TO DATE)
 9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

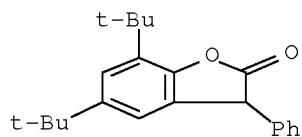
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REFERENCE 2: 141:70644

REFERENCE 3: 137:263786

REFERENCE 4: 137:79675
 REFERENCE 5: 132:315779
 REFERENCE 6: 129:190510
 REFERENCE 7: 128:116258
 REFERENCE 8: 121:36913
 REFERENCE 9: 119:141129

L7 ANSWER 10 OF 10 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 66737-86-8 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-phenyl- (CA INDEX NAME)
 OTHER NAMES:
 CN 5,7-Di-tert-butyl-3-phenyl-2-coumaranone
 CN 5,7-Di-tert-butyl-3-phenyl-3H-benzofuran-2-one
 MF C22 H26 O2
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMLIST, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: EINECS**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

44 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 44 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 148:178963
 REFERENCE 2: 147:551368
 REFERENCE 3: 147:437021
 REFERENCE 4: 146:423000
 REFERENCE 5: 146:411157
 REFERENCE 6: 146:143468
 REFERENCE 7: 146:82624
 REFERENCE 8: 144:293642
 REFERENCE 9: 144:273841

REFERENCE 10: 142:57336

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 16:22:24 ON 18 MAR 2008
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FILE COVERS 1907 - 18 Mar 2008 VOL 148 ISS 12
FILE LAST UPDATED: 17 Mar 2008 (20080317/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L37 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:534284 HCAPLUS Full-text
DN 141:70644
ED Entered STN: 02 Jul 2004
TI Antioxidant arylbenzofuranones and other substances for edible fats, oils and foods and feeds containing these materials.
IN Seltzer, Raymond; Ravichandran, Ramachathan
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C11B0005-00
CC 17-9 (Food and Feed Chemistry)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|--------------|
| PI | WO 2004055141 | A2 | 20040701 | WO 2003-EP50954 | 20031208 <-- |
| | WO 2004055141 | A3 | 20041209 | | |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | AU 2003302176 | A1 | 20040709 | AU 2003-302176 | 20031208 <-- |

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|--|----|----------|------------------|--------------|
| EP 1571928 | A2 | 20050914 | EP 2003-809982 | 20031208 <-- |
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| CN 1726026 | A | 20060125 | CN 2003-80106496 | 20031208 <-- |
| BR 2003017474 | A | 20060207 | BR 2003-17474 | 20031208 <-- |
| JP 2006510362 | T | 20060330 | JP 2004-560500 | 20031208 <-- |
| US 2006051478 | A1 | 20060309 | US 2005-538891 | 20050614 <-- |
| MX 2005PA06544 | A | 20050816 | MX 2005-PA6544 | 20050617 <-- |
| IN 2005CN01591 | A | 20070907 | IN 2005-CN1591 | 20050712 <-- |
| PRAI US 2002-434715P | P | 20021218 | <-- | |
| WO 2003-EP50954 | W | 20031208 | <-- | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES | |
|---------------|-------|--|-------|
| ----- | ----- | ----- | ----- |
| WO 2004055141 | ICM | C11B0005-00 | |
| | IPCI | C11B0005-00 [ICM, 7] | <-- |
| | IPCR | A23K0003-00 [I,C*]; A23K0003-00 [I,A]; A23L0003-3463 [I,C*]; A23L0003-3499 [I,A]; A23L0003-3544 [I,A]; C11B0005-00 [I,C*]; C11B0005-00 [I,A] | <-- |
| AU 2003302176 | ECLA | A23K003/00; A23L003/3499; A23L003/3544; C11B005/00S | <-- |
| | IPCI | C11B0005-00 [ICM, 7] | <-- |
| | IPCR | A23K0003-00 [I,C*]; A23K0003-00 [I,A]; A23L0003-3463 [I,C*]; A23L0003-3499 [I,A]; A23L0003-3544 [I,A]; C11B0005-00 [I,C*]; C11B0005-00 [I,A] | <-- |
| EP 1571928 | IPCI | A23L0003-34 [ICM, 7]; A23K0001-16 [ICS, 7]; C11B0005-00 [ICS, 7]; A23D0009-00 [ICS, 7] | <-- |
| | IPCR | A23K0003-00 [I,C*]; A23K0003-00 [I,A]; A23L0003-3463 [I,C*]; A23L0003-3499 [I,A]; A23L0003-3544 [I,A]; C11B0005-00 [I,C*]; C11B0005-00 [I,A] | <-- |
| CN 1726026 | ECLA | A23K003/00; A23L003/3499; A23L003/3544; C11B005/00S | <-- |
| | IPCI | A61K0031-34 [I,A]; C07D0307-77 [I,A]; C07D0307-00 [I,C*] | <-- |
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| | IPCI | C11B0005-00 [ICS, 7] | <-- |
| | IPCR | A23K0003-00 [I,C*]; A23L0003-3463 [I,C*]; C11B0005-00 [I,C*]; A23K0003-00 [I,A]; A23L0003-3499 [I,A]; A23L0003-3544 [I,A]; C11B0005-00 [I,A] | <-- |
| JP 2006510362 | ECLA | A23K003/00; A23L003/3499; A23L003/3544; C11B005/00S | <-- |
| | IPCI | A23D0009-06 [I,A]; A23K0001-16 [I,A]; A23K0001-18 [I,A]; A23L0003-3544 [I,A]; A23L0003-3463 [I,C*]; C09K0015-06 [I,A]; C09K0015-18 [I,A]; C09K0015-26 [I,A]; C09K0015-00 [I,C*]; C11B0005-00 [I,A] | <-- |
| | IPCR | A23D0009-06 [I,A]; A23D0009-06 [I,C]; A23K0001-16 [I,C]; A23K0001-16 [I,A]; A23K0001-18 [I,C]; A23K0001-18 [I,A]; A23K0003-00 [I,C*]; A23K0003-00 [I,A]; A23L0003-3463 [I,C]; A23L0003-3499 [I,A]; A23L0003-3544 [I,A]; C09K0015-00 [I,C]; C09K0015-06 [I,A]; C09K0015-18 [I,A]; C09K0015-26 [I,A]; C11B0005-00 [I,C]; C11B0005-00 [I,A] | <-- |
| | FTERM | 2B005/AA05; 2B005/AA06; 2B150/AA06; 2B150/DB01; 4B021/MC03; 4B021/MK25; 4B026/DC04; 4B026/DL02; 4H025/AA17; 4H025/AA32; 4H025/AA43; 4H025/AA51; 4H025/AA81; 4H025/AA82; 4H025/AC05; 4H059/BA36; 4H059/BA43; 4H059/BA65; 4H059/BB14; 4H059/BB15; 4H059/BB18; 4H059/BB22; 4H059/BB44; 4H059/BB45; 4H059/EA03 | <-- |

US 2006051478 IPCI A23D0009-013 [I,A]; A23D0009-007 [I,C*] <--
 IPCR A23D0009-007 [I,C]; A23D0009-013 [I,A] <--
 NCL 426/531.000
 ECLA K23V

MX 2005PA06544 IPCI A23D0009-00 [ICM,7]; A23K0001-16 [ICS,7]; A23L0003-34
 [ICS,7]; A23L0003-35 [ICS,7]; A23L0003-3508 [ICS,7];
 A23L0003-3463 [ICS,7,C*]; C11B0005-00 [ICS,7] <--

IN 2005CN01591 IPCI A23L0003-34 [ICM,7] <--

OS MARPAT 141:70644

AB A combination of one or more compds. selected from the group consisting of 3-arylbenzofuranones, long chain N,N-dialkylhydroxylamines, substituted hydroxylamines, nitrones, and amine oxides is highly effective as an antioxidant for use with edible organic substances subject to deterioration by oxidation

ST antioxidant arylbenzofuranone dialkylhydroxylamine hydroxylamine nitrone
 fat oil feed food

IT Antioxidants
 Coloring materials
 Emulsifying agents
 Feed additives
 Food preservatives
 Oxidation
 (antioxidant arylbenzofuranones and other substances for edible fats,
 oils and foods and feeds containing these materials)

IT Corn oil
 Edible oils
 Fats and Glyceridic oils, biological studies
 RL: BSU (Biological study, unclassified); FFD (Food or feed use); BIOL
 (Biological study); USES (Uses)
 (antioxidant arylbenzofuranones and other substances for edible fats,
 oils and foods and feeds containing these materials)

IT Amine oxides
 Nitrones
 Phosphites
 Tocopherols
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (antioxidant arylbenzofuranones and other substances for edible fats,
 oils and foods and feeds containing these materials)

IT Alcohols, biological studies
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (antioxidant esters containing; antioxidant arylbenzofuranones and other
 substances for edible fats, oils and foods and feeds containing these
 materials)

IT Rosmarinus officinalis
 (extract; antioxidant arylbenzofuranones and other substances for edible
 fats, oils and foods and feeds containing these materials)

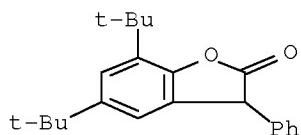
IT Food
 (fatty; antioxidant arylbenzofuranones and other substances for edible
 fats, oils and foods and feeds containing these materials)

IT Glycerides, biological studies
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (foods and feeds containing; antioxidant arylbenzofuranones and other
 substances for edible fats, oils and foods and feeds containing these
 materials)

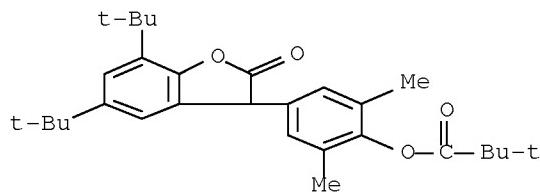
IT Feed
 (pet; antioxidant arylbenzofuranones and other substances for edible
 fats, oils and foods and feeds containing these materials)

IT Alcohols, biological studies
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (polyhydric, antioxidant esters containing; antioxidant arylbenzofuranones

- and other substances for edible fats, oils and foods and feeds containing these materials)
- IT Amine oxides
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (tertiary; antioxidant arylbenzofuranones and other substances for edible fats, oils and foods and feeds containing these materials)
- IT 50-81-7, Vitamin C, biological studies 128-37-0, BHT, biological studies 1611-03-6D, 3,5-Di-tert-butyl-4-hydroxyphenylacetic acid, esters 1948-33-0, TBHQ 3376-26-9, N-Benzyl- α -phenylnitrone 6881-57-8D, Benzyl phosphonic acid, derivs. 7803-49-8D, Hydroxylamine, N,N-di(hydrogenated tallow) derivs. 7803-49-8D, Hydroxylamine, long-chain N,N-dialkyl- and other substituted derivs. 20170-32-5D, β -(3,5-Di-tert-butyl-4-hydroxyphenyl)propionic acid, esters 22606-42-4D, tallow derivs. 24794-55-6D, esters 25013-16-5, BHA 49801-05-0D, di(C12-C14) derivs. 66737-86-8 70524-55-9, N-Ethyl- α -methylnitrone 111783-83-6D, Benzofuranone, 3-aryl derivs. 137359-61-6, O-Allyl-N,N-dioctadecyl hydroxylamine 150046-35-8 155794-02-8 155794-08-4 155794-36-8 155810-89-2 155811-15-7 164391-52-0 169198-26-9 243655-78-9D, esters 339529-04-3, N-Octyl- α -heptylnitrone 439945-17-2, N-Lauryl- α -undecylnitrone 439945-19-4, N-Tetradecyl- α -tridecylnitrone 439945-20-7, N-Hexadecyl- α -pentadecylnitrone 439945-21-8, N-Hexadecyl- α -heptadecylnitrone 439945-23-0, N-Heptadecyl- α -heptadecylnitrone 439945-24-1, n-Octadecyl- α -hexadecylnitrone 439945-25-2, N-Methyl- α -heptadecylnitrone 454168-41-3, O-n-Propyl-N,N-dioctadecyl hydroxylamine 713110-38-4
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (antioxidant arylbenzofuranones and other substances for edible fats, oils and foods and feeds containing these materials)
- IT 123250-74-8, Irgastab FS-042 201815-03-4, Irganox HP-136
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (antioxidant arylbenzofuranones and other substances for edible fats, oils and foods and feeds containing these materials)
- IT 66737-86-8 150046-35-8 155794-02-8 155794-08-4 155794-36-8 155810-89-2 155811-15-7 164391-52-0 169198-26-9
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (antioxidant arylbenzofuranones and other substances for edible fats, oils and foods and feeds containing these materials)
- RN 66737-86-8 HCPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-phenyl- (CA INDEX NAME)

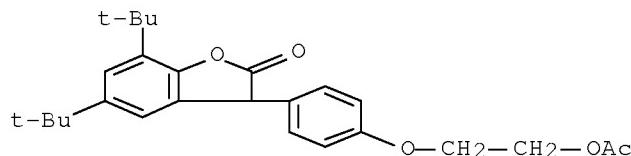


- RN 150046-35-8 HCPLUS
 CN Propanoic acid, 2,2-dimethyl-, 4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]-2,6-dimethylphenyl ester (CA INDEX NAME)



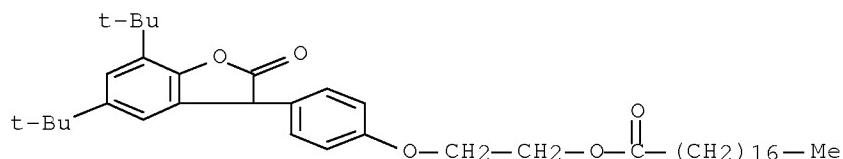
RN 155794-02-8 HCAPLUS

CN 2(3H)-Benzofuranone, 3-[4-[2-(acetyloxy)ethoxy]phenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)



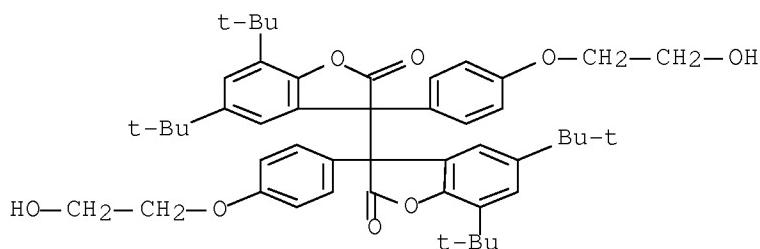
RN 155794-08-4 HCAPLUS

CN Octadecanoic acid, 2-[4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]phenoxy]ethyl ester (CA INDEX NAME)



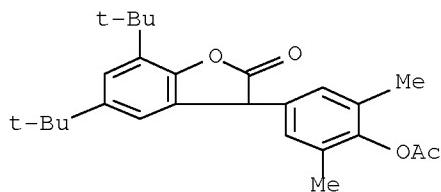
RN 155794-36-8 HCAPLUS

CN [3,3'-Bibenzofuran]-2,2'(3H,3'H)-dione, 5,5',7,7'-tetrakis(1,1-dimethylethyl)-3,3'-bis[4-(2-hydroxyethoxy)phenyl]- (CA INDEX NAME)

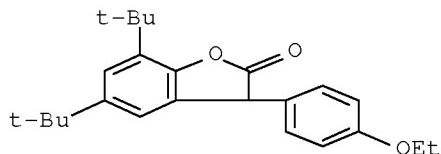


RN 155810-89-2 HCAPLUS

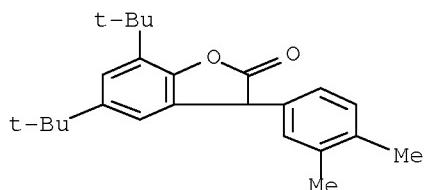
CN 2(3H)-Benzofuranone, 3-[4-(acetyloxy)-3,5-dimethylphenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)



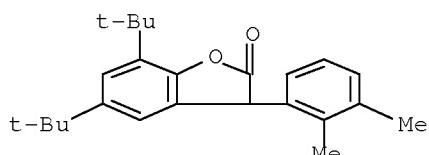
RN 155811-15-7 HCAPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(4-ethoxyphenyl)- (CA INDEX NAME)



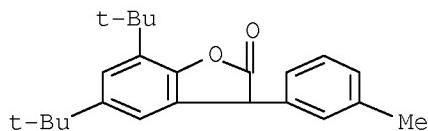
RN 164391-52-0 HCAPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)- (CA INDEX NAME)



RN 169198-26-9 HCAPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(2,3-dimethylphenyl)- (CA INDEX NAME)



IT 201815-03-4, Irganox HP-136
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (antioxidant arylbenzofuranones and other substances for edible fats,
 oils and foods and feeds containing these materials)
 RN 201815-03-4 HCAPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-[2,3(or 3,4)-dimethylphenyl]- (CA INDEX NAME)



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L38 ANSWER 1 OF 7 HCPLUS COPYRIGHT 2008 ACS on STN

AN 2004:1125652 HCPLUS Full-text

DN 142:57786

TI Modified poly(ethylene terephthalate) (PET) with less aldehydes and manufacture thereof

IN Mamyoda, Takahiro; Hiraoka, Shoji

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|--------------|
| PI JP 2004359907 | A | 20041224 | JP 2003-162946 | 20030606 <-- |
| PRAI JP 2003-162946 | | 20030606 | <-- | |

AB Melt PET (A), prepared by esterification of terephthalic acid and ethylene glycol and subsequent condensation polymerization in melt state, are blended with melt additives (B) chosen from hindered phenols, lactones, and/or P-based stabilizers and granulated to give chip-like modified PET, showing no acetaldehyde odor and useful for beverage bottles. After the granulation, the modified PET may be annealed at temperature lower than m.p. to increase intrinsic viscosity. Thus, ethylene glycol, isophthalic acid, and terephthalic acid were esterified and polymerized to give polyester. Part of the polyester was mixed with pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate] (Irganox 1010) to give a master batch, which was melt blended with the residue of the polyester, cut into chips, crystallized, solid polymerized, and molded to give a bottle showing acetaldehyde concentration 7.2 ppm.

IC ICM C08J0003-20

ICS C08K0005-13; C08K0005-151; C08K0005-49; C08L0067-02

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 17

IT 6683-19-8, Irganox 1010 31570-04-4, Irgafos 168 164391-52-0,

5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one

RL: FFD (Food or feed use); MOA (Modifier or additive use); PEP

(Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)

(stabilizers; manufacture of aldehyde odor-free modified PET for beverage bottles by blending with stabilizers)

IT 164391-52-0, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one

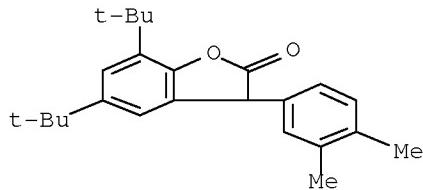
RL: FFD (Food or feed use); MOA (Modifier or additive use); PEP

(Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)

(stabilizers; manufacture of aldehyde odor-free modified PET for beverage bottles by blending with stabilizers)

RN 164391-52-0 HCAPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)-(CA INDEX NAME)



L38 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:559904 HCAPLUS Full-text

DN 139:118387

TI Rubber-modified styrene polymer compositions with good mold releasability and their injection-blow-molded products

IN Kawasaki, Toshiharu; Miura, Shinichi

PA PS Japan K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------|-------|----------|-----------------|--------------|
| ----- | ----- | ----- | ----- | ----- |
| PI JP 2003206384 | A | 20030722 | JP 2002-7544 | 20020116 <-- |
| PRAI JP 2002-7544 | | 20020116 | <-- | |

OS MARPAT 139:118387

AB The compns., useful for food containers, etc., comprise (a) 100 parts styrene polymers containing dispersed rubber particles, (b) 0.006-0.5 part 3-R1-substituted 4-7-R2-R5-substituted benzofuranone [R1 = (un)substituted (hetero)cyclic aromatic group; R2-R5 = H, C1-5 alkyl], and (c) 0.02-0.5 part higher fatty acid metal salts and higher fatty acids. Thus, a composition containing (a) 100 parts styrene polymer containing 4.5% Diene 55 (rubber particle, average particle size 3.4 µm), (b) 0.05 part 5,7-di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one, (c) 0.2 part calcium stearate, and (d) 0.1 part stearic acid was injection-blow-molded to give a container for milk with improved continuous moldability and reduced black foreign matters.

IC ICM C08L0051-04

ICS B29C0049-00; C08J0005-00; C08K0005-09; C08K0005-098; C08K0005-1535; B29K0021-00; B29K0055-02; B29K0105-16

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 17, 27, 39

IT 164391-51-9P 164391-52-0P, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one

RL: FFD (Food or feed use); IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)

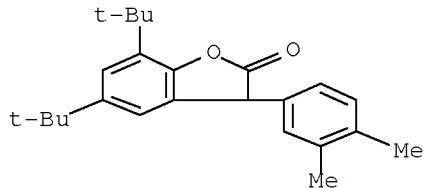
(heat stabilizer; preparation of heat stabilizers for rubber-modified styrene polymer compns.)

IT 164391-52-0P, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one

RL: FFD (Food or feed use); IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (heat stabilizer; preparation of heat stabilizers for rubber-modified styrene polymer compns.)

RN 164391-52-0 HCAPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)-
 (CA INDEX NAME)



L38 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:736320 HCAPLUS Full-text

DN 137:263786

TI Synergistic flame retardant compositions for polymers

IN Troutman, Malisa V.; Ravichandran, Ramanathan; Srinivasan, Rangarajan; King, Roswell Easton; Horsey, Douglas Wayne

PA Ciba Specialty Chemicals Holding Inc., Switz.

SO PCT Int. Appl., 70 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|--------------|
| PI | WO 2002074847 | A1 | 20020926 | WO 2002-EP2706 | 20020312 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | CA 2440904 | A1 | 20020926 | CA 2002-2440904 | 20020312 <-- |
| | AU 2002302417 | A1 | 20021003 | AU 2002-302417 | 20020312 <-- |
| | EP 1379584 | A1 | 20040114 | EP 2002-729995 | 20020312 <-- |
| | EP 1379584 | B1 | 20050824 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| | CN 1498244 | A | 20040519 | CN 2002-807076 | 20020312 <-- |
| | JP 2004526837 | T | 20040902 | JP 2002-573849 | 20020312 <-- |
| | AT 302814 | T | 20050915 | AT 2002-729995 | 20020312 <-- |
| | ES 2247332 | T3 | 20060301 | ES 2002-729995 | 20020312 <-- |
| | US 2004097619 | A1 | 20040520 | US 2003-471947 | 20030916 <-- |
| | US 7084196 | B2 | 20060801 | | |
| | IN 2003CN01475 | A | 20051125 | IN 2003-CN1475 | 20030918 <-- |
| | US 2006084731 | A1 | 20060420 | US 2005-296686 | 20051207 <-- |
| PRAI | US 2001-277222P | P | 20010320 | <-- | |

WO 2002-EP2706 W 20020312 <--
 US 2003-471947 A1 20030916 <--
 OS MARPAT 137:263786

AB Polymeric substrates, for example polyolefins such as polypropylene, can be made flame retardant by the incorporation therein of a synergistic mixture of (i.) at least one compound selected from the group consisting of nitroxyl stabilizers, hydroxylamine stabilizers, nitrone stabilizers, substituted hydroxylamine stabilizers, amine oxide stabilizers, benzofuranone stabilizers, phosphite and phosphonite stabilizers, quinone methide stabilizers and monoacrylate esters of 2,2'-alkylidenebisphenol stabilizers and (ii.) at least one compound selected from the group consisting of brominated flame retardants, phosphorus containing flame retardants and inorg. flame retardants such as ammonium polyphosphate or decabromodiphenyl oxide; wherein the amount of organic or inorg. flame retardant of component (ii.) required to achieve an acceptable level of flame retardancy is significantly reduced compared to that needed when component (i.) is not present.

IC ICM C08K0005-00
 ICS C08K0005-3435

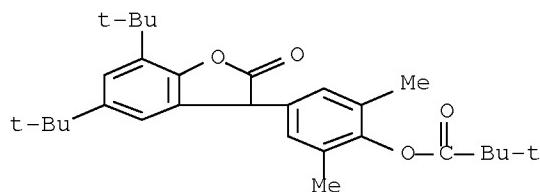
CC 37-6 (Plastics Manufacture and Processing)

IT 2226-96-2, 4-Hydroxy-1-oxyl-2,2,6,6-tetramethylpiperidine 2516-88-3,
 Bis(1-oxyl-2,2,6,6-tetramethylpiperidin-4-yl)succinate 2516-91-8,
 Bis(1-oxyl-2,2,6,6-tetramethylpiperidin-4-yl) terephthalate 2564-83-2
 2564-88-7 2896-70-0 3225-26-1, 1-Oxyl-2,2,6,6-tetramethylpiperidin-4-
 yl benzoate 3229-53-6 3376-26-9, N-Benzyl- α -phenylnitrone
 3551-21-1, Bis(1-oxyl-2,2,6,6-tetramethylpiperidin-4-yl) isophthalate
 3936-30-9, Bis(1-oxyl-2,2,6,6-tetramethylpiperidin-4-yl)phthalate
 4359-97-1 6599-87-7 7019-94-5 7062-57-9 7078-98-0 7803-49-8D,
 Hydroxylamine, derivs. 14691-89-5 22977-67-9 40289-91-6 61167-58-6
 65559-25-3 70524-55-9, N-Ethyl- α -methylnitrone 71711-98-3
 77432-44-1, 4,4'-Ethylenebis(1-oxyl-2,2,6,6-tetramethylpiperazin-3-one)
 86878-55-9 86878-57-1 94271-84-8, N-(1-Oxyl-2,2,6,6-
 tetramethylpiperidin-4-yl)caprolactam 97116-04-6 104056-68-0
 123373-68-2 128893-72-1 132207-24-0, 1-Oxyl-2,2,6,6-
 tetramethylpiperidin-4-yl 4-tert-butyl-benzoate 132392-95-1
 150046-35-8 153784-60-2, 1-Oxyl-2,2,6,6-tetramethylpiperidin-4-
 yl 2-ethylhexanoate 153784-61-3, Bis(1-oxyl-2,2,6,6-tetramethylpiperidin-
 4-yl) n-butylmalonate 153784-62-4, Bis(1-oxyl-2,2,6,6-
 tetramethylpiperidin-4-yl)hexahydroterephthalate 154186-11-5
 155794-02-8 155794-06-2 155794-08-4
 155810-89-2 155811-15-7 164391-52-0
 169198-26-9 179552-47-7 179552-48-8, 2,4,6-Tris-[N-butyl-N-(1-
 oxyl-2,2,6,6-tetramethylpiperidin-4-yl)]-s-triazine 183666-73-1
 183666-75-3 183666-77-5 183666-79-7 183666-82-2 183721-31-5
 183721-32-6 183721-33-7 183721-34-8 183721-35-9 183721-36-0
 339529-04-3, N-Octyl- α -heptylnitrone 433337-81-6 439945-17-2,
 N-Lauryl- α -undecylnitrone 439945-19-4, N-Tetradecyl- α -
 tridecylnitrone 439945-20-7, N-Hexadecyl- α -pentadecylnitrone
 439945-21-8, N-Hexadecyl- α -heptadecylnitrone 439945-22-9,
 N-Octadecyl- α -pentadecylnitrone 439945-23-0, N-Heptadecyl- α -
 heptadecylnitrone 439945-24-1 439945-25-2 461664-14-2 461664-15-3
 461664-16-4 461664-17-5 461664-18-6 461664-19-7 461664-20-0
 461664-21-1 461664-37-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (synergistic flame retardant compns. for polymers)

IT 150046-35-8 155794-02-8 155794-08-4
 155810-89-2 155811-15-7 164391-52-0
 169198-26-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (synergistic flame retardant compns. for polymers)

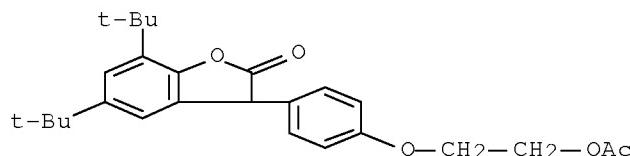
RN 150046-35-8 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]-2,6-dimethylphenyl ester (CA INDEX NAME)



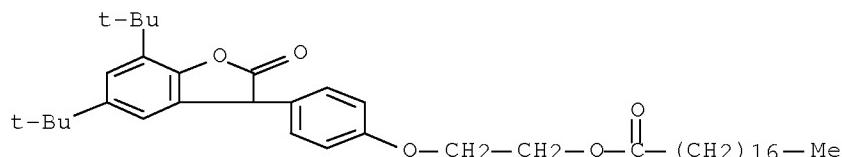
RN 155794-02-8 HCAPLUS

CN 2(3H)-Benzofuranone, 3-[4-[2-(acetoxy)ethoxy]phenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)



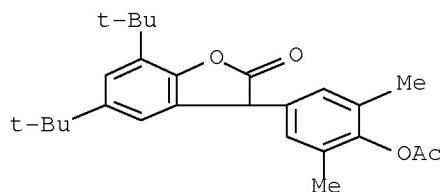
RN 155794-08-4 HCAPLUS

CN Octadecanoic acid, 2-[4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]phenoxy]ethyl ester (CA INDEX NAME)



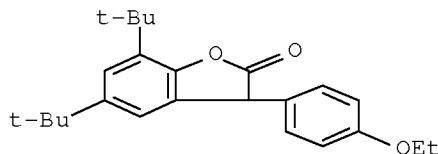
RN 155810-89-2 HCAPLUS

CN 2(3H)-Benzofuranone, 3-[4-(acetoxy)-3,5-dimethylphenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)



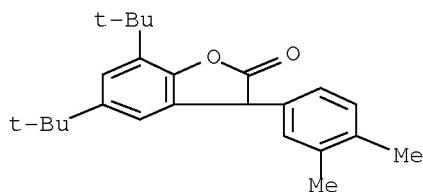
RN 155811-15-7 HCAPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(4-ethoxyphenyl)- (CA INDEX NAME)



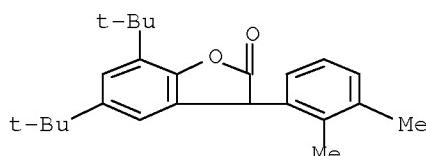
RN 164391-52-0 HCAPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)-
(CA INDEX NAME)



RN 169198-26-9 HCAPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(2,3-dimethylphenyl)-
(CA INDEX NAME)



RETABLE

| Referenced Author (RAU) | Year VOL PG | Referenced Work (RWP) | Referenced File |
|---|-----------------|--------------------------|-----------------|
| =====+=====+=====+=====+=====+=====+===== | | | |
| Ciba Geigy Ag | 1998 | IWO 9828361 A | HCAPLUS |
| Ciba Geigy Ag | 1999 | IWO 9900450 A | HCAPLUS |
| Nesvadba, P | 1994 | US 5369159 A | HCAPLUS |
| Sicken, M | 1994 | US 5326805 A | HCAPLUS |

L38 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:573337 HCAPLUS Full-text

DN 135:138199

TI 4-Methyl-1-pentene polymer compositions with good heat resistance and flexibility

IN Nakahara, Takashi

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI JP 2001214015 A 20010807 JP 2000-22613 20000131 <--
 PRAI JP 2000-22613 20000131 <--

OS MARPAT 135:138199

AB The compns., useful for food packaging materials, contain 4-methyl-1-pentene polymers and phenol acrylates and/or lactones scavenging alkyl radicals. A composition comprising a mixture of 4-methyl-1-pentene-1-tetradecene copolymer (I) 70, HV 300 (liquid polybutene) 10, 1-butene-ethylene copolymer 10, propylene-ethylene copolymer 10 parts, 0.10% (to I) Sumilizer GS, 0.15% (to I) Irganox 1010, and 2.0% (to I) zeolite was made into a film showing haze 2.0%, gloss 85%, and no odor after heating at 100° for 30 min.

IC ICM C08L0023-20

ICS C08K0003-00; C08K0005-00; C08K0005-134; C08K0005-1535

CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 17

IT Food packaging materials

(4-Methyl-1-pentene polymer compns. with good heat resistance for)

IT 123968-25-2, Sumilizer GS 201815-03-4, HP 136

RL: MOA (Modifier or additive use); USES (Uses)

(4-Methyl-1-pentene polymer compns. with good heat resistance)

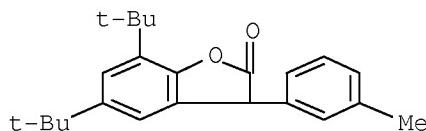
IT 201815-03-4, HP 136

RL: MOA (Modifier or additive use); USES (Uses)

(4-Methyl-1-pentene polymer compns. with good heat resistance)

RN 201815-03-4 HCPLUS

CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-[2,3(or
 3,4)-dimethylphenyl]- (CA INDEX NAME)



D1— Me

L38 ANSWER 5 OF 7 HCPLUS COPYRIGHT 2008 ACS on STN

AN 2000:236136 HCPLUS Full-text

DN 132:252335

TI Thermal-stable conjugated diene polymer compositions with low unpleasant odor

IN Yanagihara, Hiroshi; Iihara, Tomohiro

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|-------|-----------------|-------|
| ----- | ----- | ----- | ----- | ----- |

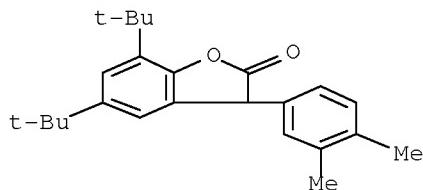
PI JP 2000103906 A 20000411 JP 1998-275591 19980929 <--

PRAI JP 1998-275591 19980929 <--

AB Title compns., useful for food packagings, comprise 0.05-3 phr (based on 100 parts polymers) S-free hindered phenol antioxidants, 0.01-0.5 phr S-containing antioxidants (A), and 0.5-10% (based on 100 parts A) epoxides. A composition of 30:70 butadiene-styrene block copolymer 100, octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate 0.25, 2,4-bis(n-octylthiomethyl)-6-

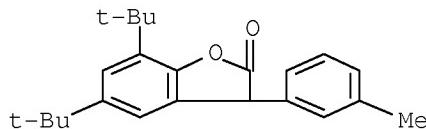
methylphenol 0.2, and epoxidized soya oil 0.01 part showed melt flow retention 83% (230°, 2.16-kg load, 55 min, based on 5 min residence time), low unpleasant odor, and 100° n-heptane-eluted content 230 mg.

- IC ICM C08L0009-00
 ICS C08K0005-13; C08K0005-15; C08K0005-36
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 17, 38
 IT Antioxidants
 Food packaging materials
 Heat-resistant materials
 (epoxide- and antioxidant blend-containing conjugated diene rubbers with thermal stability and odor reduction for food packagings)
 IT 90-66-4 123-28-4, Dilauryl 3,3'-thiodipropionate 693-36-7, Distearyl 3,3'-thiodipropionate 1709-70-2, 1,3,5-Trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene 2082-79-3, Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate 6683-19-8 16545-54-3, Dimyristyl 3,3'-thiodipropionate 29598-76-3, Pentaerythritol tetrakis(3-laurylthiopropionate) 31851-03-3, Wingstay L 35074-77-2 36443-68-2 41484-35-9 61167-58-6, 2-tert-Butyl-6-(3-tert-butyl-2-hydroxy-5-methylbenzyl)-4-methylphenyl acrylate 90498-90-1 110553-27-0 123968-25-2, 2-[1-(2-Hydroxy-3,5-di-tert-pentylphenyl)ethyl]-4,6-di-tert-pentylphenyl acrylate 146598-26-7, Isooctyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate 164391-52-0, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one 188793-84-2, Wingstay K
 RL: MOA (Modifier or additive use); USES (Uses)
 (antioxidant; epoxide- and antioxidant blend-containing conjugated diene rubbers with thermal stability and odor reduction for food packagings)
 IT 164391-52-0, 5,7-Di-tert-butyl-3-(3,4-dimethylphenyl)-3H-benzofuran-2-one
 RL: MOA (Modifier or additive use); USES (Uses)
 (antioxidant; epoxide- and antioxidant blend-containing conjugated diene rubbers with thermal stability and odor reduction for food packagings)
 RN 164391-52-0 HCPLUS
 CN 2(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-(3,4-dimethylphenyl)- (CA INDEX NAME)



- L38 ANSWER 6 OF 7 HCPLUS COPYRIGHT 2008 ACS on STN
 AN 1999:751590 HCPLUS Full-text
 DN 131:352367
 TI Oxygen remover-containing polyolefin compositions and their sheets, films, laminates, and packaging containers
 IN Otaki, Ryoji; Kashiba, Takashi; Ito, Yoshiki
 PA Mitsubishi Gas Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------|---|----------|-----------------|--------------|
| PI JP 11323032 | A | 19991126 | JP 1999-14544 | 19990122 <-- |
| JP 3460801 | B2 | 20031027 | | |
| PRAI JP 1998-12908 | A | 19980126 | <-- | |
| AB | The compns., especially useful for food packaging films and containers, contain 10-80:20-90 mixts. of O removers and polyolefins, and 10-20,000 ppm phenolic, P-, and/or lactone-type antioxidants. Thus, pellets containing 40 parts O remover (Fe powder coated with CaCl ₂ and NaCl), 60 parts polyethylene (PE) (Novatec LD-LC 720), and 21 ppm a phenolic antioxidant (ADK Stab AO 50) were extrusion-laminated with PET, PE, and an Al foil to give a multilayer film. Rice cakes sealed in a bag from the film were not deteriorated after 1-mo storage at 25°. | | | |
| IC | ICM C08L0023-00 ICS A23L0003-00; A23L0003-3436; B01J0020-26; B01J0020-28; B32B0007-02; B65D0081-26; C08K0003-08; C08K0003-16; C08K0005-10; C08K0005-13; C08K0005-49 | | | |
| CC | 38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 17 | | | |
| IT | Antioxidants Bags Food packaging materials Laminated plastic films (polyolefin films containing O removers and antioxidants for (laminated) food packaging containers) | | | |
| IT | 201815-03-4, HP 136 RL: FFD (Food or feed use); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses) (HP 136; polyolefin films containing O removers and antioxidants for (laminated) food packaging containers) | | | |
| IT | 201815-03-4, HP 136 RL: FFD (Food or feed use); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses) (HP 136; polyolefin films containing O removers and antioxidants for (laminated) food packaging containers) | | | |
| RN | 201815-03-4 HCPLUS | | | |
| CN | 2-(3H)-Benzofuranone, 5,7-bis(1,1-dimethylethyl)-3-[2,3(or 3,4)-dimethylphenyl]- (CA INDEX NAME) | | | |



L38 ANSWER 7 OF 7 HCPLUS COPYRIGHT 2008 ACS on STN
AN 1994:435314 HCPLUS Full-text
DN 121:35314
TI Preparation of 3-(2-acyloxyethoxyphenyl)benzofuran-2-ones as stabilizers for organic materials.
IN Nesvadba, Peter
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DT Patent
LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|----|---------------------------------------|------|----------|-----------------|--------------|--|
| PI | EP 591102 | A1 | 19940406 | EP 1993-810651 | 19930914 <-- | |
| | EP 591102 | B1 | 20001018 | | | |
| | R: AT, BE, DE, ES, FR, GB, IT, NL, SE | | | | | |
| | AT 197048 | T | 20001115 | AT 1993-810651 | 19930914 <-- | |
| | ES 2151900 | T3 | 20010116 | ES 1993-810651 | 19930914 <-- | |
| | US 5428162 | A | 19950627 | US 1993-124139 | 19930920 <-- | |
| | CA 2106607 | A1 | 19940324 | CA 1993-2106607 | 19930921 <-- | |
| | RU 2130931 | C1 | 19990527 | RU 1993-55138 | 19930921 <-- | |
| | SK 282160 | B6 | 20011106 | SK 1993-1017 | 19930921 <-- | |
| | CZ 289204 | B6 | 20011212 | CZ 1993-1961 | 19930921 <-- | |
| | ZA 9307014 | A | 19940323 | ZA 1993-7014 | 19930922 <-- | |
| | CN 1087906 | A | 19940615 | CN 1993-117880 | 19930922 <-- | |
| | CN 1040208 | B | 19981014 | | | |
| | BR 9303878 | A | 19940329 | BR 1993-3878 | 19930923 <-- | |
| | JP 06207041 | A | 19940726 | JP 1993-261564 | 19930924 <-- | |
| | JP 3505604 | B2 | 20040308 | | | |
| | PRAI CH 1992-2979 | A | 19920923 | <-- | | |
| | OS MARPAT 121:35314 | | | | | |
| | GI | | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. [I; when m = 1, R1 = H, (O-, S-, or imino-interrupted) (phosphonate-substituted) alkanoyl, alkenoyl, cycloalkylcarbonyl, thenoyl, furoyl, (alkyl-substituted) PhCO, Q1, Q2, Q3, COR21COR11, COR22R23; when m = 2, R1 = CO, COR21CO, COR22R24R22CO; when m = 3, R1 = alkanetricarbonyl, aryltricarbonyl, Q4, Q5; when m = 4, R1 = alkanetetracarbonyl, aryltetracarbonyl; R2-R5 = H, Cl, alkyl, phenylalkyl, (substituted) Ph, cycloalkyl, alkoxy, alkylthio, OH, alkylamino, dialkylamino, alkanoyloxy, alkanoylamino, alkenoyloxy, etc.; R2R3, R3R4, R4R5 = atoms to form Ph rings; R6 = H, Q6; R7-R10 = H, alkyl, alkoxy; R11 = OH, metal alkoxide, alkoxy, amino; R17, R19, R20 = H, alkyl; R18 = H, (substituted) Ph, phenylalkyl, (O-, S-, or imino-interrupted) alkyl, etc.; R21 = bond, (O-, S-, or imino-interrupted) alkylene, alkenylene, cycloalkylene, bicycloalkylene (alkyl)phenylene, etc.; R22 = O, imino, etc.; R23 = alkyl, Ph; R24 = alkylene, cycloalkylene, phenylene; m = 1-4; n = 0-2], were prepared. Thus, 2,4-di-tert-butylphenol and 4-(2-hydroxyethoxy)mandelic acid (preparation given) were refluxed 8 h in HOAc saturated with HCl gas; the HOAc was removed in vacuo and the residue was heated at 120° with AcCl. Volatiles were again removed in vacuo and the residue was kept in MeOH at -8° to precipitate 3-[4-(2-acetoxyethoxy)phenyl]-5,7-di-tert- butylbenzofuran-2-one. The latter at 0.015% in a polypropylene composition gave a melting index after 3 extrusions of 6.1, vs. 17.1 for untreated controls.

IC ICM C07D0307-83

ICS C07C0059-64; C08K0005-15

CC 27-6 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 37

| | | | | |
|-----------------|--------------|--------------|--------------|--------------|
| IT 155794-02-8P | 155794-03-9P | 155794-04-0P | 155794-05-1P | |
| 155794-06-2P | 155794-07-3P | 155794-08-4P | 155794-09-5P | |
| 155794-10-8P | 155794-11-9P | 155794-12-0P | 155794-13-1P | 155794-14-2P |
| 155794-15-3P | 155794-16-4P | 155794-17-5P | 155794-18-6P | 155794-19-7P |

155794-20-0P 155794-21-1P 155794-22-2P 155794-23-3P 155794-24-4P
 155794-25-5P 155794-26-6P 155794-27-7P 155794-28-8P 155794-29-9P
 155794-30-2P 155794-31-3P 155794-32-4P 155794-33-5P 155794-34-6P
 155794-35-7P 155794-36-8P 155794-37-9P 155794-38-0P 155794-39-1P
 155794-40-4P 155794-41-5P 155794-42-6P 155794-43-7P
 155794-44-8P 155794-45-9P

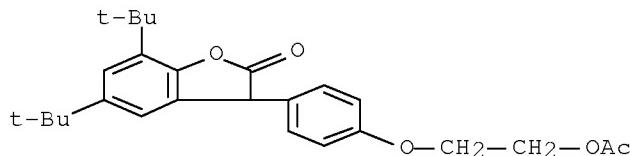
RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as stabilizer for organic materials)

IT 155794-02-8P 155794-08-4P 155794-36-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as stabilizer for organic materials)

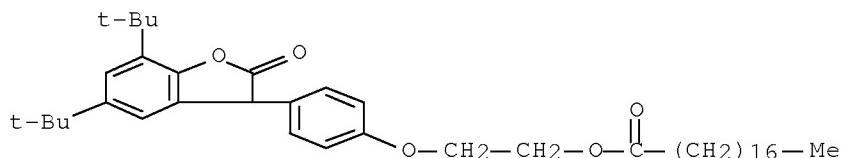
RN 155794-02-8 HCPLUS

CN 2(3H)-Benzofuranone, 3-[4-[2-(acetyloxy)ethoxy]phenyl]-5,7-bis(1,1-dimethylethyl)- (CA INDEX NAME)



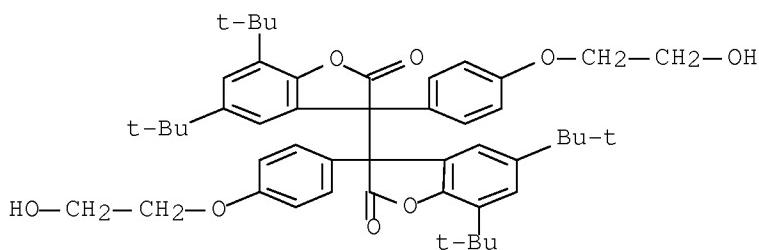
RN 155794-08-4 HCPLUS

CN Octadecanoic acid, 2-[4-[5,7-bis(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl]phenoxy]ethyl ester (CA INDEX NAME)



RN 155794-36-8 HCPLUS

CN [3,3'-Bibenzofuran]-2,2'(3H,3'H)-dione, 5,5',7,7'-tetrakis(1,1-dimethylethyl)-3,3'-bis[4-(2-hydroxyethoxy)phenyl]- (CA INDEX NAME)



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(FILE 'HOME' ENTERED AT 15:53:25 ON 18 MAR 2008)
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 15:53:38 ON 18 MAR 2008

L1 1 S US20060051478/PN OR (US2005-538891# OR WO2003-EP50954) /AP, PRN
 E SELTZER/AU
 E SELTZER R/AU
L2 89 S E3,E4,E6
 E RAVICHANDRAN/AU
L3 136 S E63,E66
 E RAMANATHAN/AU
 E RAMANATHAN R/AU
L4 121 S E3-E5
 SEL RN L1

FILE 'REGISTRY' ENTERED AT 15:55:52 ON 18 MAR 2008

L5 37 S E1-E37
L6 11 S L5 AND OC4-C6/ES
L7 10 S L6 AND 46.150.18/RID
 SAV L7 DEESS538/A

FILE 'HCAPLUS' ENTERED AT 16:04:08 ON 18 MAR 2008

L8 246 S L7
L9 30 S L8 AND PY<=2003 NOT P/DT
L10 27 S L8 AND PY<=2002 NOT P/DT
L11 134 S L8 AND (PD<=20021218 OR PRD<=20021218 OR AD<=20021208) AND P/
L12 147 S L8 AND (PD<=20031208 OR PRD<=20031208 OR AD<=20031208) AND P/
L13 177 S L9,L12
L14 161 S L10,L11
L15 6 S L13,L14 AND (FOOD? OR FEED?)/SC,SX
L16 2 S L13,L14 AND C11B005/IPC,IC,ICM,ICS,EPC
L17 4 S L13,L14 AND (FEED? OR FOOD?)/CW,CT
 E FEED/CT
L18 1 S L13,L14 AND E8+OLD,NT
L19 1 S L13,L14 AND E3+OLD,NT
 E FOOD/CT
L20 1 S L13 AND E37+OLD,NT
L21 1 S L14 AND E37+OLD,NT
L22 4 S L13,L14 AND L7(L)FFD/RL
L23 2 S L1-L4 AND L8
L24 58 S L8 AND CIBA?/CO,PA,CS
L25 52 S L13,L14 AND L24
L26 3 S L15-L23 AND L24,L25
L27 8 S L15-L23,L26
L28 5 S L27 NOT PACKAGING
L29 1 S L28 NOT PLASTIC?/SC,SX
L30 7 S L27 NOT L29
L31 2 S L13,L14 AND A23?/IPC,IC,ICM,ICS,EPC
L32 1 S L31 NOT PACKAGING
L33 1 S L29,L32
L34 7 S L30,L31 NOT L33
L35 1 S L13,L14 AND A61K/IPC,IC,ICM,ICS,EPC
L36 1 S L33,L35
L37 1 S L36 AND L1-L4,L8-L36
L38 7 S L27-L36 AND L1-L4,L8-L36 NOT L37

FILE 'REGISTRY' ENTERED AT 16:22:12 ON 18 MAR 2008

FILE 'HCAPLUS' ENTERED AT 16:22:24 ON 18 MAR 2008

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